Short Title: Percent of household crowding
Full Title: Percent of household overcrowding (> 1.0 persons per room) and severe overcrowding (> 1.5 persons per room)

1. Healthy Community Framework: Meets basic needs of all

2. What is Our Aspirational Goal? Affordable, high quality, socially integrated and location-efficient housing

3. Why is this Important to Health?

Description of significance and health connection
Residential crowding has been linked to an increased risk of infection from communicable diseases, a higher prevalence of respiratory ailments, and greater vulnerability to homelessness among the poor. Residential crowding reflects demographic and socioeconomic conditions. Older-adult immigrant and recent immigrant communities, families with low income and renter-occupied households are more likely to experience household crowding. A form of residential overcrowding known as "doubling up"—co-residence with family members or friends for economic reasons—is the most commonly reported prior living situation for families and individuals before the onset of homelessness.

Summary of evidence
Population-based and cohort studies have found adverse associations between residential crowding and health outcomes and family and social relationships. Children in crowded households experienced more conflicts/problems within the family and at school, excessive school absences and lower scores in reading and math exercises. Household crowding is associated with a higher incidence of tuberculosis and prevalence of respiratory conditions. Several studies have identified household crowding to be a major risk factor in measles outbreaks and related-deaths, mumps infection, and meningitis and meningococcal disease.

Key References

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4. What is this Indicator?

Detailed Definition**:** The indicator is defined as the percent of household overcrowding (> 1.0 person per room, PPR) and severe overcrowding (> 1.5 PPR). The denominator of the indicator is the total number of households.

Stratification: Housing tenure (owner-occupied, renter-occupied, and total households); income level of renter/householder (households with a monthly household income ≤ 30% and all levels of HUD-adjusted median family income); race/ethnicity stratification is not available.

Data Description
- Data source: U.S. Department of Housing and Urban Development (HUD), Consolidated Planning Comprehensive Housing Affordability Strategy (CHAS) data, Table 10
- Years available: 2006-2010
- Updated: 3 and 5 year intervals
- Geographies available: places, counties, regions (derived), and state

In CHAS data, household overcrowding and severe household overcrowding estimates were pre-calculated for renter- and owner-occupied households. To derive the percent of household overcrowding (> 1.0 PPR), household estimates from two crowding strata (1.0 – 1.5 PPR and > 1.5 PPR) were summed (the numerator), divided by the denominator and multiplied by 100. For the percent of severe household overcrowding, household estimates for severe overcrowding (the numerator) were divided by the denominator and multiplied by 100. Both derived percents (the indicator) were calculated for renter-occupied, owner-occupied and total households (includes renter- and owner-occupied households).

The indicators and standard errors were calculated using the approximate method for the geographies of census tract, place, county, region (derived), and state. Relative standard errors (RSE), 95% confidence intervals, and decile ranking of census tracts and places were also calculated. Regions were based on counties of metropolitan transportation organizations (MPO) as reported in the 2010 California Regional Progress Report. Census tract estimates using CHAS and ACS data were statistically unstable (RSE ≥ 30% for the majority of census tracts). As a result, census-tract level data are not presented.

5. Limitations

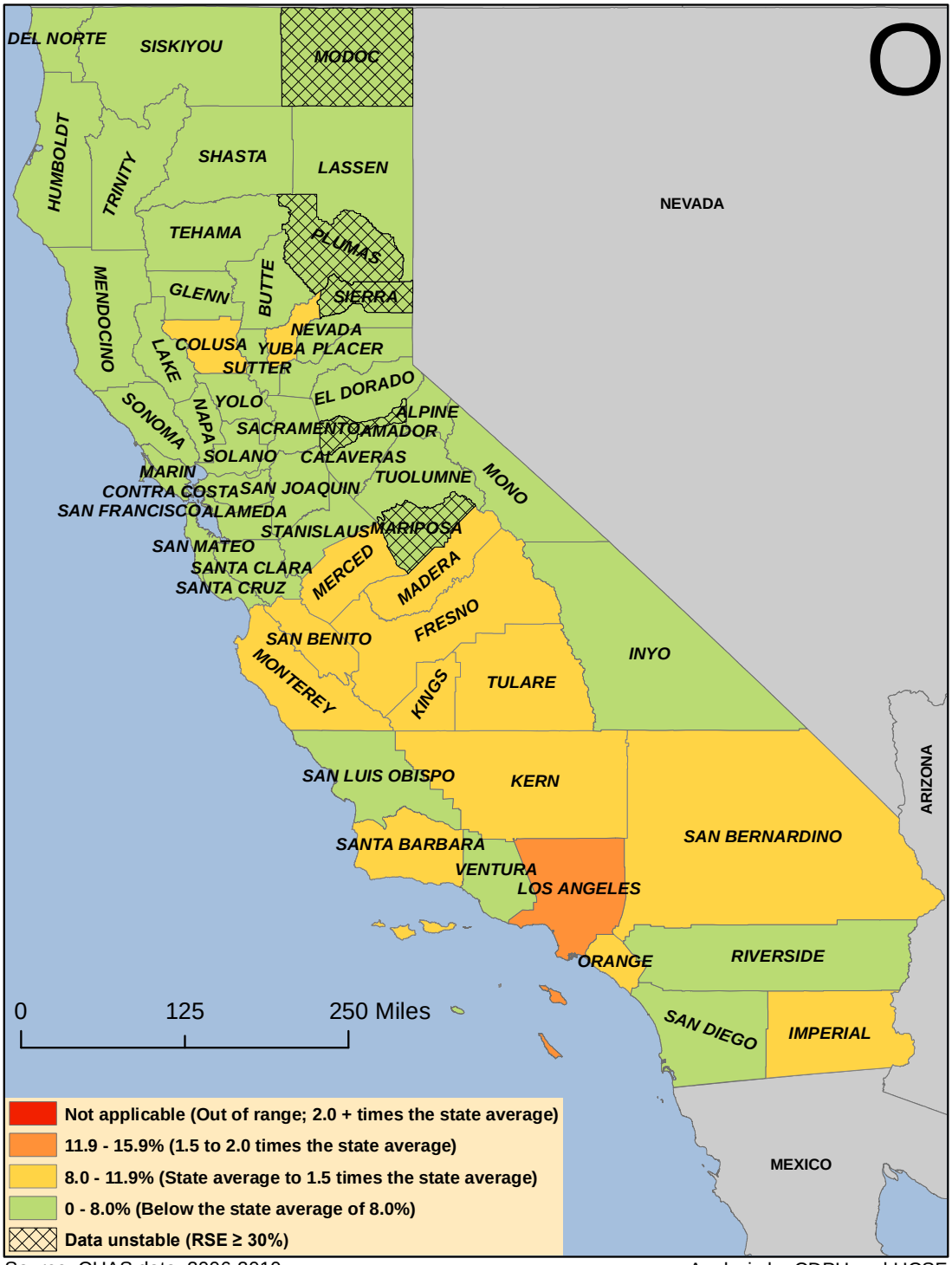
Race/ethnicity data was not available at the time of this analysis. Estimates for the survey period 2006-2010 are bisected by the Great Recession (2008), marked by a large increase in home foreclosures, and house/rental price instability. Due to changes in definitions and sampling, HUD does not recommend making comparisons to prior years' estimates.

6. Projects using this indicator

WHO's Children's Environmental Health Indicators; Sustainable Communities Index

7. Examples of Maps, Figures, and Tables

Map 1. Percent of Household Overcrowding, Households at All Levels of HAMFI, Counties, California, 2006-2010*

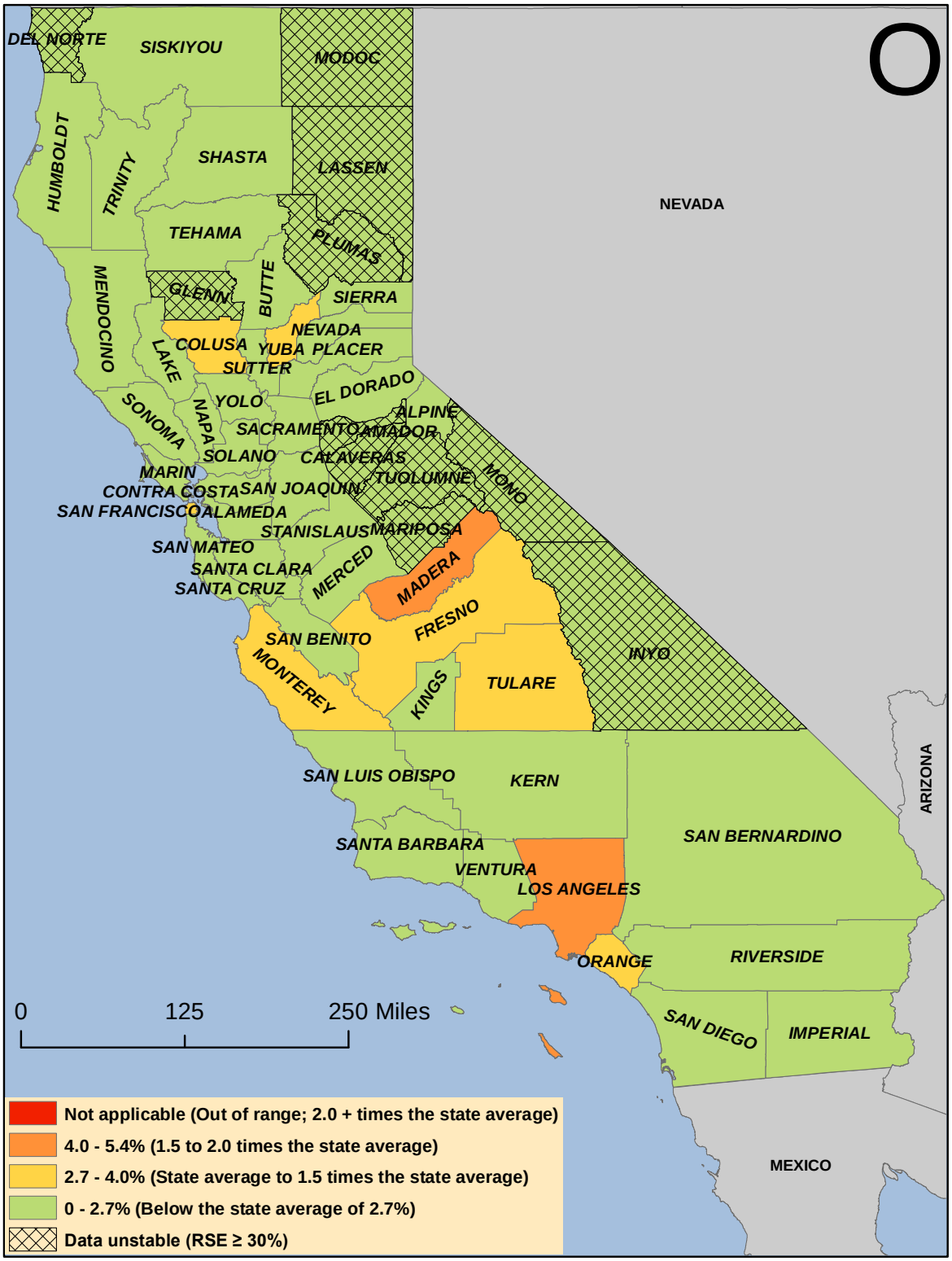


Source: CHAS data, 2006-2010

Analysis by CDPH and UCSF

*Household overcrowding occurs when there is more than one person to a room. HAMFI is the HUD-adjusted median family income.

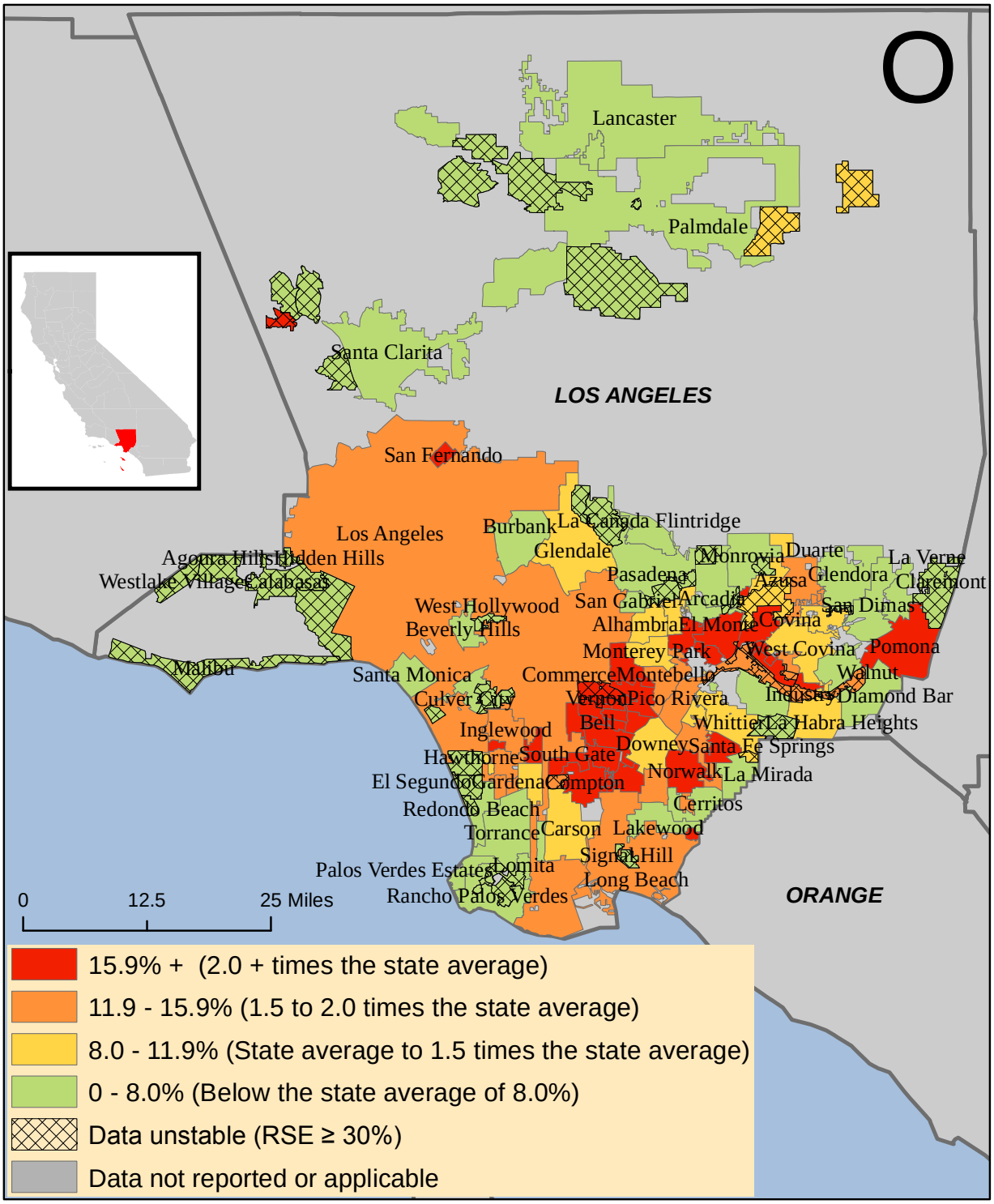
Map 2. Percent of Severe Household Overcrowding, Households at All Levels of HAMFI, Counties, California, 2006-2010*



Source: CHAS data, 2006-2010 Analysis by CDPH and UCSF

*Severe household overcrowding occurs when there is more than 1.5 persons to a room. HAMFI is the HUD-adjusted median family income.

Map 3. Percent of Household Overcrowding, Households at All Levels of HAMFI, Places, Los Angeles County, CA, 2006-2010*

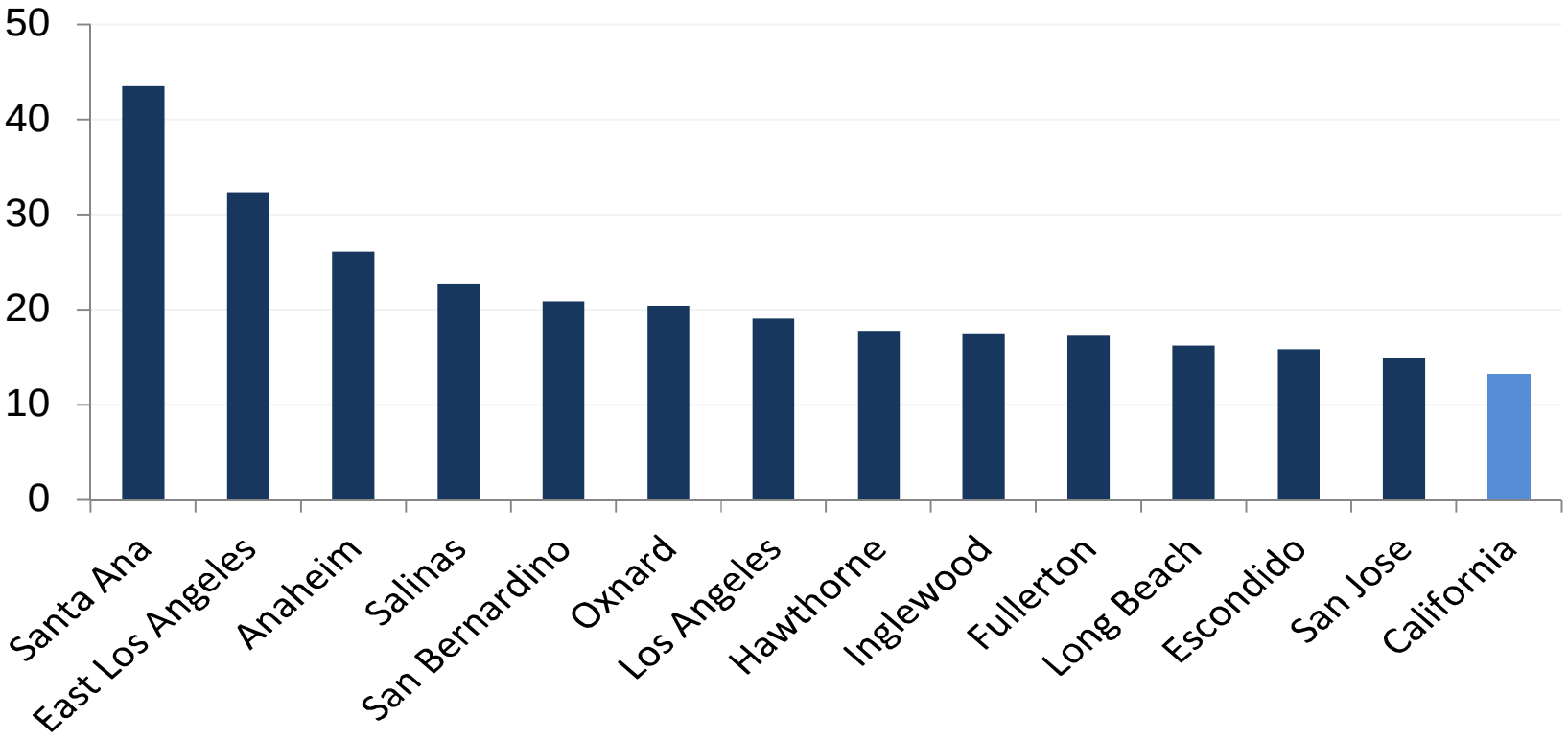


Source: U.S Department of Housing and Urban Development (HUD), CHAS data, 2006-2010

Analysis by CDPH and UCSF

*Household overcrowding occurs when there is more than one person to a room. HAMFI is the HUD-adjusted median family income.

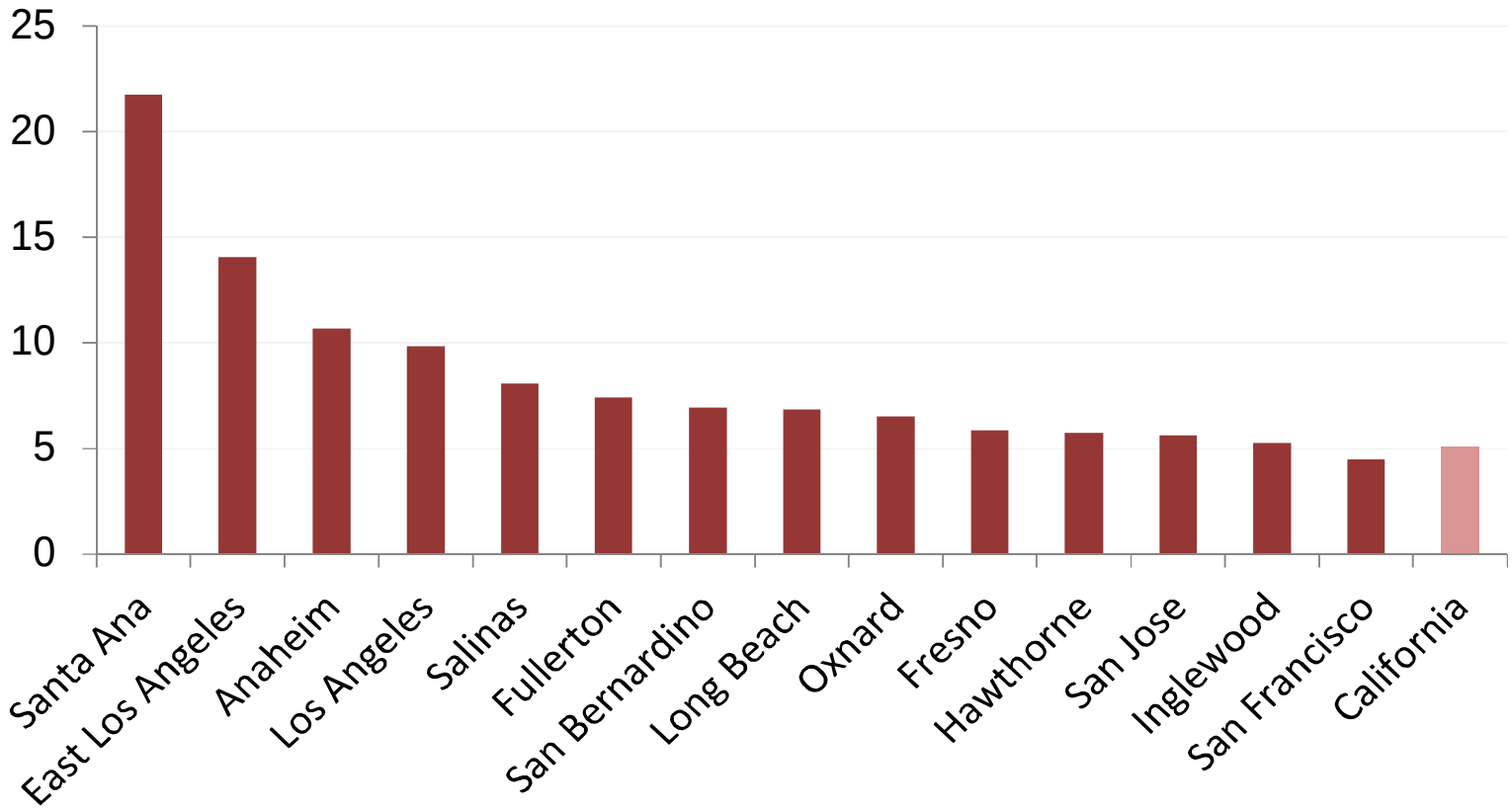
Figure 1. Percent of Household Overcrowding (> 1.0 PPR) among Renter-occupied Households, All Incomes, Top 14 Places, California, 2006-2010*



*Source: U.S. Department of Housing and Urban Development (HUD), Consolidated Planning Comprehensive Housing Affordability Strategy (CHAS) data, 2006-2010. Top 14 places are cities, towns or CDPs with the highest prevalence of household overcrowding, a total population ≥ 20,000 households and stable data (RSE<30%). PPR is person per room.

Analysis by CDPH and UCSF

Figure 2. Percent of Severe Household Crowding among Renter-occupied Households, All Incomes, Top 14 Places, California, 2006-2010*



* Severe crowding is defined as > 1.5 persons per room

Source: U.S. Department of Housing and Urban Development (HUD), Consolidated Planning Comprehensive Housing Affordability Strategy (CHAS) data, 2006-2010. Top 14 places are cities, towns or CDPs with the highest prevalence of severe household overcrowding, a total population ≥ 20,000 households and stable data (RSE<30%)..

Analysis by CDPH and UCSF

Table 1. Percent of Household Overcrowding and Severe Overcrowding among Renter-occupied Households Having a Monthly Household Income at ≤ 30% of HAMFI, Top 7 Places, California, 2006-2010*

	Total (Households)	Households with Overcrowding†	Percent	Total (Households)	Households with Severe Overcrowding§	Percent
Los Angeles	244,410	55,645	22.8	244,410	31,710	13.0
Long Beach	26,770	5,370	20.1	26,770	2,460	9.2
San Jose	31,440	5,710	18.2	31,440	2,575	8.2
San Diego	51,585	6,625	12.8	51,585	2,810	5.4
San Francisco	57,230	5,145	9.0	57,230	3,920	6.8
Oakland	30,255	3,025	10.0#	30,255	1,430	4.7
Sacramento	20,940	1,975	9.4#	20,940	605	2.9
California	1,260,320	207,825	16.5	1,260,320	91,700	7.3

* HAMFI is the HUD-adjusted, median family income. Top 7 places are cities and towns with the highest prevalence of overcrowding and severe overcrowding, a total population ≥ 20,000 households and stable data (RSE<30%).

Data is unstable (RSE ≥ 30%)
† Greater than 1 person per room
§ Greater than 1.5 persons per room
Source: U.S. Department of Housing and Urban Development (HUD), Consolidated Planning Comprehensive Housing Affordability Strategy (CHAS) data, 2006-2010

Analysis by CDPH and UCSF